

BIOGRAPHICAL SKETCH

NAME	POSITION TITLE		
Giometti, Carol S.	Senior Biochemist		
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Knox College	BA	1972	Biology
Rush Hospital	MT	1973	Medical Technology
University of Illinois	Ph.D.	1978	Biochemistry

A. Professional Experience:

1973-1978	Teaching Assistant, University of Illinois at the Medical Center, Chicago
1978-1981	Postdoctoral Appointee, Molecular Anatomy Program, Argonne National Laboratory
1981-1982	Assistant Biologist, Molecular Anatomy Program, Argonne National Laboratory
1982-1985	Assistant Biochemist, Molecular Anatomy Program, Argonne National Laboratory
1985-1987	Assistant Biochemist, Protein Mapping Group, Argonne National Laboratory
1987-2001	Biochemist, Protein Mapping Group, Argonne National Laboratory
3/1999-5/2000	Acting Division Director, Biosciences Division, Argonne National Laboratory
2001-present	Senior Biochemist, Protein Mapping Group, Argonne National Laboratory
1984	Young Investigator Award in Clinical Chemistry

B. Selected Peer-reviewed Publications (40 from a total of 79):

- Giometti, C.S., M.A. Gemmell, S.L. Tollaksen, and D. Grahn. 1988. Heritable protein variants induced by exposure to ethylnitrosourea: Heritability, subcellular location, and tissue distribution. *Mutat. Res.* 202:9-17.
- Giometti, C.S., S.L. Tollaksen, M.A. Gemmell, J. Burcham, and C. Peraino. 1988. A heritable variant of mouse liver ornithine aminotransferase (EC 2.6.1.13) induced by ethylnitrosourea. *J. Biol. Chem.* 263:15781-15784.
- Giometti, C.S., S.L. Tollaksen, M.A. Gemmell, J. Taylor, N. Hawes, and T. Roderick. 1990. The analysis of recessive lethal mutations in mice by using two-dimensional gel electrophoresis of liver proteins. *Mut. Res.* 242:47-55.
- Giometti, C.S., J. Taylor, M.A. Gemmell, S.L. Tollaksen, N.D. Lalwani, and J.K. Reddy. 1991. A comparative study of the effects of clofibrate, ciprofibrate, WY-14, 643, and di-(2-ethylhexyl)-phthalate on liver protein expression in mice. *Appl. Theoret. Electrophoresis* 2:101-107.
- Giometti, C.S., M.A. Gemmell, S.L. Tollaksen, and J. Taylor. 1991. Quantitation of human leukocyte proteins after silver-staining: A study with two-dimensional Electrophoresis. *Electrophoresis* 12:536-543.
- Giometti, C.S., M.A. Gemmell, J. Taylor, S.L. Tollaksen, R. Angeletti, and S. Gluecksohn-Waelsch. 1992. Evidence for regulatory genes on mouse chromosome 7 that affect the quantitative expression of proteins in fetal and newborn liver. *Proc. Natl. Acad. Sci. USA* 89:2448-2452.
- Giometti, C.S., J. Taylor, and S.L. Tollaksen. 1992. Mouse liver protein database: a catalog of proteins detected by two-dimensional gel electrophoresis. *Electrophoresis* 13:970-991.
- Giometti, C.S., S.L. Tollaksen, D. Grahn. 1994. Altered protein expression detected in the F1 offspring of male mice exposed to fission neutrons. *Mut. Res.* 320:75-85.
- Champion, K.M., R.J. Cook, S.L. Tollaksen, and C.S. Giometti. 1994. Identification of a heritable deficiency of the folate-dependent enzyme 10-formyltetrahydrofolate dehydrogenase in mice. *Proc. Natl. Acad. Sci. USA* 91:11338-11342.
- Giometti, C.S., S.L. Tollaksen, C. Chubb, C. Williams, E. Huberman. 1995. Analysis of proteins from human breast epithelial cells using two-dimensional gel electrophoresis. *Electrophoresis* 16:1215-1224.
- Giometti, C.S., K. Williams, and S.L. Tollaksen. 1997. A two-dimensional electrophoresis database of human breast epithelial cell proteins. *Electrophoresis* 18:573-581.
- Joachimiak, A., E. Quaite-Randall, S.L. Tollaksen, X. Mai, M.W.W. Adams, R. Josephs, and C.S. Giometti. 1997. Purification of chaperonins from thermophilic bacteria and archaea. *J. Chromatogr. A* 773:131-138.
- Williams, K., C. Chubb, E. Huberman, and C.S. Giometti. 1998. Analysis of differential protein expression in normal and neoplastic human breast epithelial cell lines. *Electrophoresis* 19:333-343.
- Giometti, C.S., S.L. Tollaksen, X. Liang, and M.L. Cunningham. 1998. A comparison of liver protein changes in mice and hamsters treated with the peroxisome proliferator Wy-14, 643. *Electrophoresis*, 19:2498-2505.
- Rehnmark, S., C.S. Giometti, B.G. Slavin, M.H. Doolittle, and K. Reue. J. 1998. The fat liver dystrophy mutant mouse: Microvesicular steatosis associated with altered expression of levels of peroxisome proliferator-regulated proteins. *Lipid Res.* 39: 2209-2217.

- Giometti, C.S., X. Liang, S.L. Tollaksen, D.B. Wall, D.M. Lubman, V. Subbarao, and M.S. Rao. 2000. Mouse liver selenium-binding protein decreased in abundance by peroxisome proliferators. *Electrophoresis* 21:2162-2169.
- Giometti, C.S., C.I. Reich, S.L. Tollaksen, G. Babnigg, H. Lim, J.R. Yates, III, and G.J. Olsen. 2001. Structural modifications of *Methanococcus jannaschii* flagellin proteins revealed by proteome analysis. *Europ. J. Mass Spectrom.* 7:195-205.
- Holden, J.F., F.L. Poole II, S.L. Tollaksen, C.S. Giometti, H. Lim, J.R. Yates III, and M.W.W. Adams. 2001. Identification of membrane proteins in the hyperthermophilic archaeon *Pyrococcus furiosus* using proteomics and prediction programs. *Comp. Funct. Genomics* 2:275-288.
- Thompson DK, Beliaev AS, Giometti CS, Tollaksen SL, Khare T, Lies DP, Nealson KH, Lim H, Yates J 3rd, Brandt CC, Tiedje JM, Zhou J. 2002. Transcriptional and Proteomic Analysis of a Ferric Uptake Regulator (Fur) Mutant of *Shewanella oneidensis*: Possible Involvement of Fur in Energy Metabolism, Transcriptional Regulation, and Oxidative Stress. *Appl Environ Microbiol.* 68:881-892.
- Beliaev, A.S., Thompson, D.K. , Khare, T., Lim, H., Brandt, C.C., Li, G. , Murray, A.E. , Heidelberg, J.F., Giometti, C.S., Yates III, J.R., Nealson, K.H., Tiedje, J.M., and Zhou, J. 2002. Gene Expression and Protein Profiles of *Shewanella oneidensis* during anaerobic growth with different electron acceptors. *Omics* 6: 39-60.
- Giometti, C.S., Reich, C., Tollaksen, S., Babnigg, G., Lim, H., Zhu, W., Yates III, J., and Olsen, G. 2003. Global Analysis of a "Simple" Proteome: *Methanococcus jannaschii*. *J. Chrom. B*, 782: 227-243.
- Babnigg, G. and Giometti, C.S. 2003. ProteomeWeb: A Web-Based Interface for the Display and Interrogation of Proteomes. *Proteomics*, 3: 584-600.
- Giometti, C.S., Khare, T., Tollaksen, S. L., Tsapin, A., Zhu, W., Yates III, J. R., and Nealson, K. H. 2003. Analysis of the *Shewanella oneidensis* Proteome by Two-Dimensional Gel electrophoresis under Non-denaturing Conditions, *Proteomics*, 3: 777-785.
- Zhu, W., Reich, C.I., Olsen, G.J., Giometti, C.S., Yates, J.R. 3rd. 2004. Shotgun proteomics of *Methanococcus jannaschii* and insights into methanogenesis. *J Proteome Res.*, 3: 538-548.
- Babnigg, G. and Giometti, C.S. 2004. GELBANK: a database of annotated two-dimensional gel electrophoresis patterns of biological systems with completed genomes. *Nucleic Acids Res.*, 32: D582-585.
- Shotgun proteomics of *Methanococcus jannaschii* and insights into methanogenesis. Zhu W, Reich CI, Olsen GJ, Giometti CS, Yates JR 3rd. *J Proteome Research* 3: 538-48, 2004.
- Low temperature growth of *Shewanella oneidensis* MR-1. Randa Abboud, Radu Popa, Virginia Souza-Egipsy, Carol S. Giometti, Sandra Tollaksen, Jennifer J. Mosher, Robert H. Findlay, and Kenneth H. Nealson. *Applied and Environmental Microbiology* 71: 811-816, 2005.
- Differentiation of prostate cancer PC-3 Cells induced by inosine-5'-monophosphate dehydrogenase inhibitors. Daniel Floryk, Sandra L. Tollaksen, Carol S. Giometti, and Eliezer Huberman. *Cancer Res.* 64: 9049-9056. 2004.
- Global profiling of *Shewanella oneidensis* MR-1: Expression of 'hypothetical' genes and improved annotations. Kolker, E., Purvine, S., Picone, AF., Kolker, N., Holzman, T., Cherny, T., et al. *Proc. Natl. Acad. Sci.*, 102: 2099-2104, 2005.
- XRF and XAFS analysis of electrophoretically isolated nondenatured proteins. KM Kemner, SD Kelly, EJ O'Loughlin, T Khare, LA Moe, BG Fox, MI Donnelly, Y Londer, M Schiffer, and CS Giometti. *Physica Scripta*, T115: 940-942, 2005.
- Large-scale muLC-MS/MS for silver and Coomassie blue-stained polyacrylamide gels. Zhu, W, Venable, J, Giometti, CS, Khare, T, Tollaksen, S, Ahrendt, AJ, and Yates, JR 3rd. *Electrophoresis* 26: 4495-4507, 2005.
- Differential protein expression in the metal-reducing bacterium *Geobacter sulfurreducens* PCA grown with fumarate or ferric citrate. Tripti Khare, Carol S. Giometti, Abraham Esteve-Núñez, Kelly P. Nevin, Wenhong Zhu, John R. Yates III, and Derek Lovley. *Proteomics* 6: 632-40, 2006.
- Knock-out of a prohibitin-like protein results in alteration of iron metabolism, increased spontaneous mutation and hydrogen peroxide sensitivity in bacterium *Shewanella oneidensis*. Weimin Gao, Yongqing Liu, Carol S. Giometti, Sandra Tollaksen, Tripti Khare, Liyou Wu, Matthew W. Fields, and Jizhong Zhou. *BMC Genomics* 7:76, 2006.
- Differential recovery of biotinylated microbial proteins using monomeric or polymeric avidin. T. Khare and C.S. Giometti. *BioTechniques* 40:584-588.
- DNA Microarray and Proteomic Analyses of the RpoS Regulon in *Geobacter sulfurreducens*. Nunez, C., Esteve-Nunez, A., Giometti, C., Tollaksen, S., Khare, T., Lin, W., Lovley, D.R., Methé, B.A. *J. Bacte.* 188:2792-2800, 2006.
- The proteome of dissimilatory metal-reducing microorganism *Geobacter sulfurreducens* under various growth conditions. Ding YH, Hixson KK, Giometti CS, Stanley A, Esteve-Núñez A, Khare T, Tollaksen SL, Zhu W, Adkins JN, Lipton MS, Smith RD, Mester T, Lovley DR. *Biochim Biophys Acta*. 1764:1198-206, 2006.
- A tale of two metal reducers: Comparative Proteome Analysis of *Geobacter sulfurreducens* PCA and *Shewanella oneidensis* MR-1. Giometti, CS. In: *Microbial Proteomics – Functional biology of whole organisms*. Editors: Ian Humphery-Smith & Michael Hecker, Publisher: Wiley and Sons Inc., NY, pp. 97-110, 2006.
- A database of unique protein sequence identifiers for proteome studies. Babnigg G, Giometti CS. (2006) *Proteomics*, in press.